

## **Treatment Unit Card 58**

**Alternatives:** 2

**Compartment:** 341

**Stand:** 7

**Acreage Treated:** 72

**Treatment:** Sanitation; Fuelbreak; Pile and burn

**District:** Cadillac-Manistee

**Location:** T20N, R16W, Sec 3; Mason County

**ELTP:** 34, 35, 37

**Unit Description:** A jack pine-oak stand with a year of origin of 1941 and a basal area (BA) of 90. It is located on LTA 7 in Management Area 4.2.

**Resource Prescription:** Remove decadent/high risk jack pine; retain a minimum of 40 BA of trees >5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**Fuels Prescription:** Machine pile material resulting from sanitation cut throughout the stand. Piles can vary in size and where possible should not be placed under overstory trees.

Burn the piles created during machine piling. This would take place when long range weather forecasts would insure that fire does not spread from the piles to adjacent land, usually late fall and winter.

Cut all decadent hardwoods and all conifers within 100' of private property. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land.

**NNIS Prescription:** Inject glyphosate capsules into stems of autumn olive (0.5 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

**Concern:** Protection of bald eagle nesting areas.

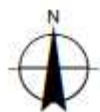
**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

**Concern:** Protection of birch during treatment operations.

**Mitigation:** Reserve birch trees.



## County Line Fuels Project Treatment Unit Card 58



0 215 430 860 1,290 1,720 Feet



## **Treatment Unit Card 58**

**Alternatives:** 3, 4  
**Compartment:** 341  
**Stand:** 7  
**Acreage Treated:** 24

**Treatment:** Fuelbreak; Lop and scatter; Pile and burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 3; Mason County  
**ELTP:** 34, 35, 37

**Unit Description:** A jack pine-oak stand with a year of origin of 1941 and a basal area (BA) of 90. It is located on LTA 7 in Management Area 4.2.

**Fuels Prescription:** Cut all decadent hardwoods and all conifers within 100' of private property and in the blowdown area in the interior. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**NNIS Prescription:** Inject glyphosate capsules into stems of autumn olive (0.5 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

**Concern:** Seasonal high water table and clay soils.

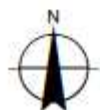
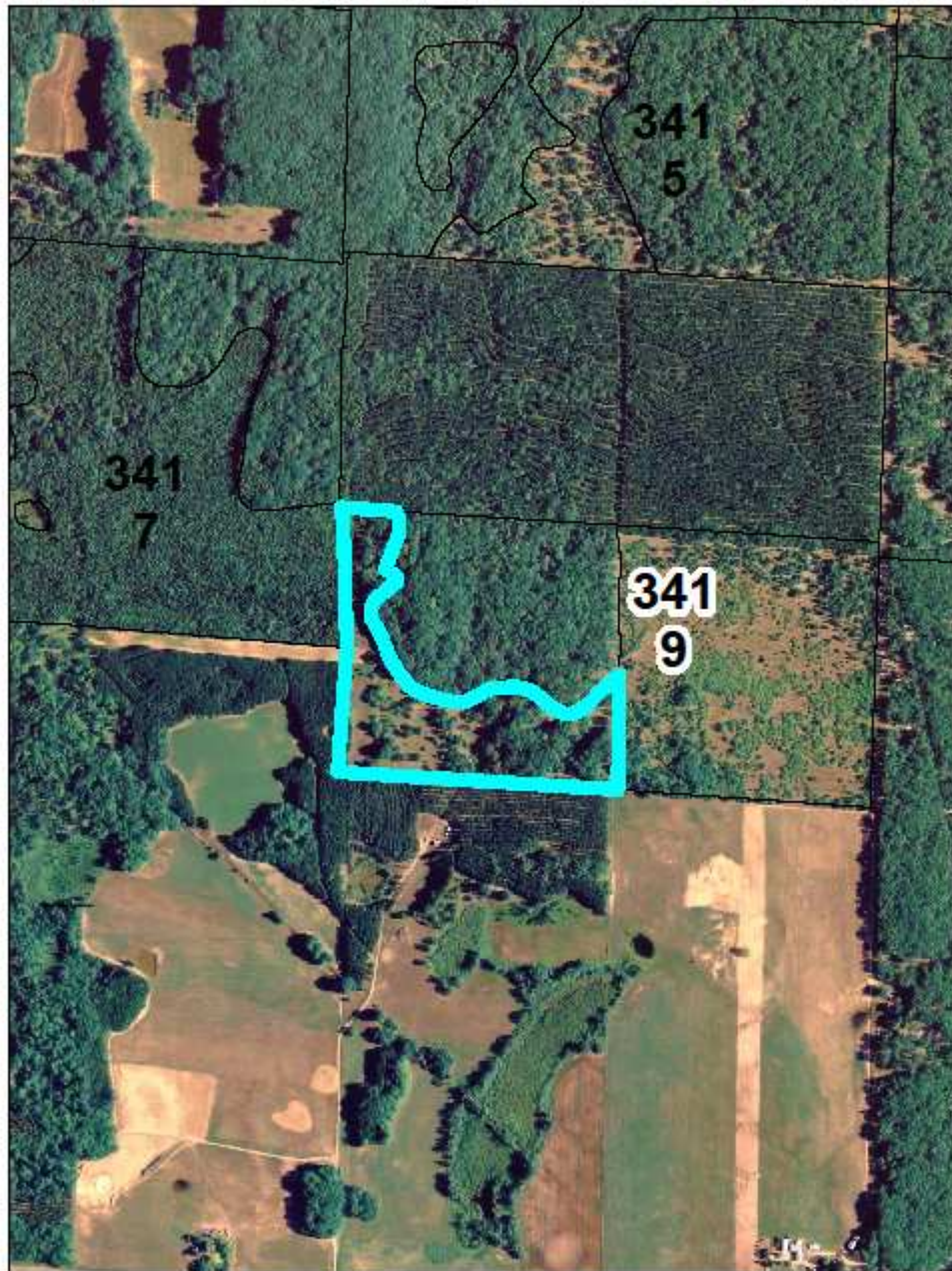
**Mitigation:** Mechanical equipment operations between January 1-February 28 or July 1-August 31.

**Concern:** Protection of birch during treatment operations.

**Mitigation:** Reserve birch trees.



## County Line Fuels Project Treatment Unit Card 59



0 215 430 860 1,290 1,720 Feet



## **Treatment Unit Card 59**

**Alternatives:** 2  
**Compartment:** 341  
**Stand:** 9  
**Acreage Treated:** 20

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 3; Mason County  
**ELTP:** 21, 23, 25

**Unit Description:** An opening located on LTA 7 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Plant native wildlife shrubs along east edge of stand.

**NNIS Prescription:** Inject glyphosate capsules into stems of autumn olive (0.1 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

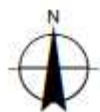
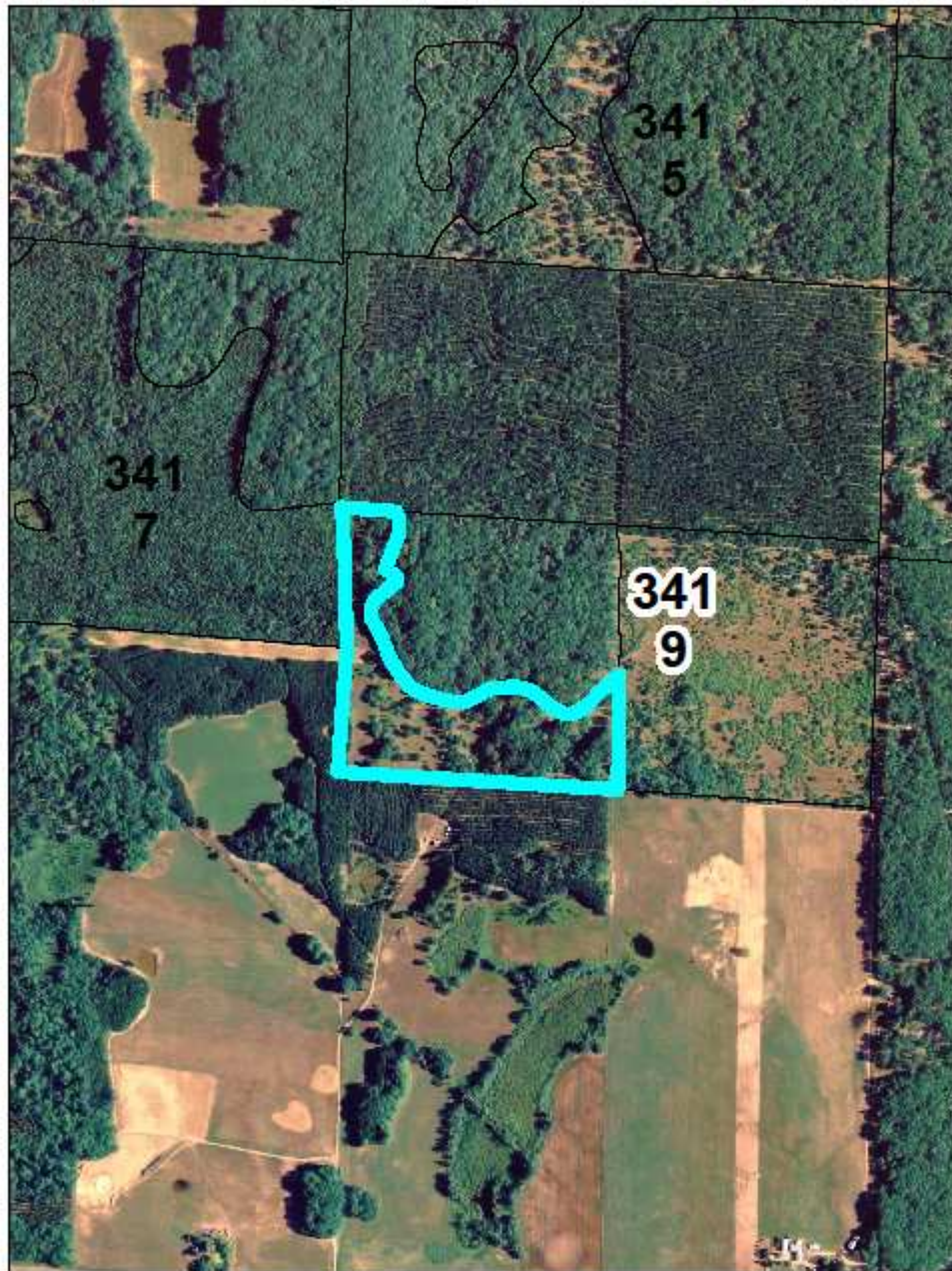
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 59



0 215 430 860 1,290 1,720 Feet



**Treatment Unit Card 59**

**Alternatives:** 3, 4  
**Compartment:** 341  
**Stand:** 9  
**Acreage Treated:** 20

**Treatment:** Opening maintenance  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 3; Mason County  
**ELTP:** 21, 23, 25

**Unit Description:** An opening located on LTA 7 in Management Area 4.2.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Plant native shrubs along east edge of stand.

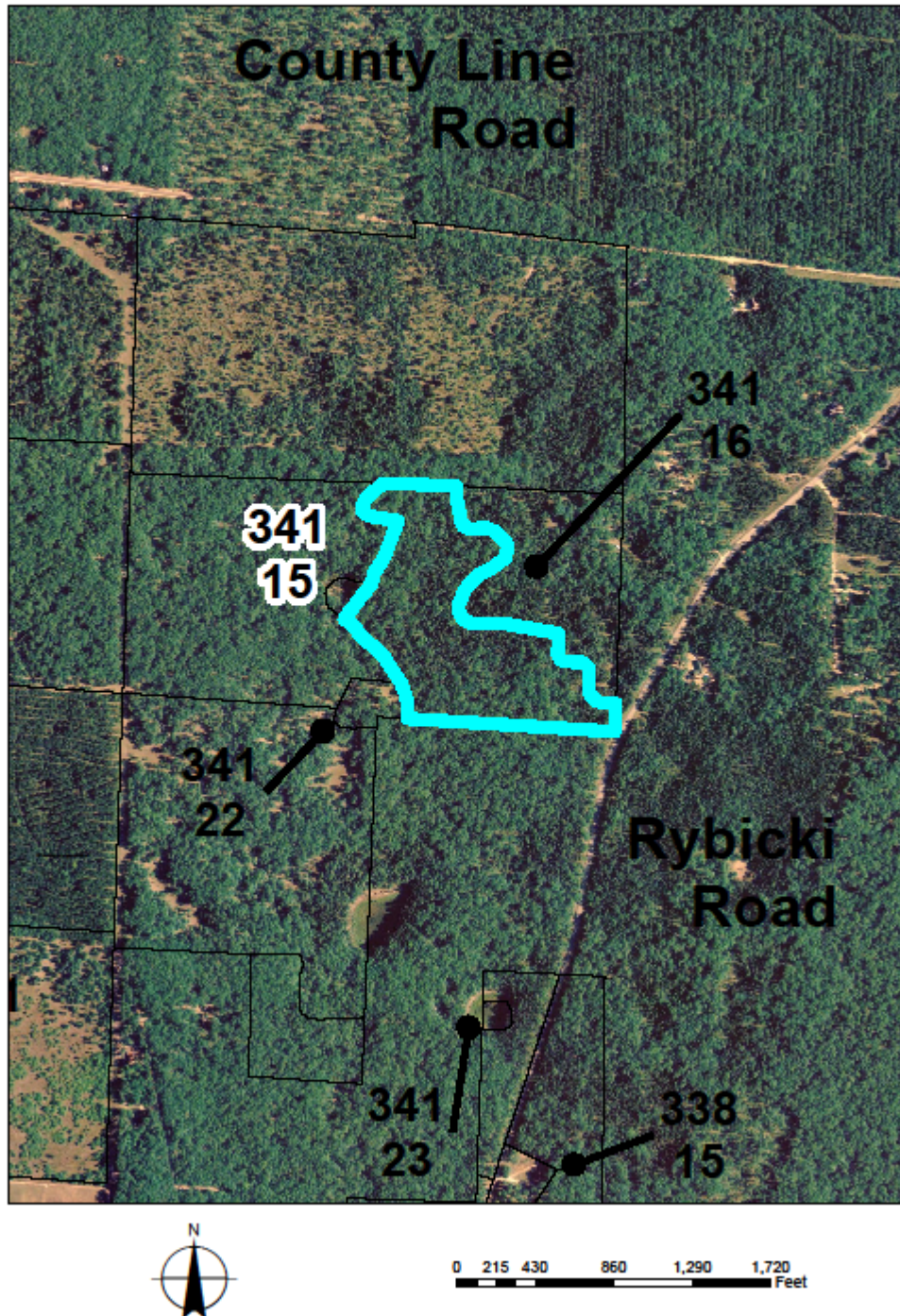
**NNIS Prescription:** Inject glyphosate capsules into stems of autumn olive (0.1 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years.

**Concern:** Protection of potential Indiana bats present during the breeding season.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut or removed unless considered a safety hazard.



## County Line Fuels Project Treatment Unit Card 60





## **Treatment Unit Card 60**

**Alternatives:** 2  
**Compartment:** 341  
**Stand:** 15  
**Acreage Treated:** 23

**Treatment:** Sanitation; Broadcast burn; Fuelbreak; Pile and burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 2; Mason County  
**ELTP:** 10

**Unit Description:** A jack pine stand with a year of origin of 1941 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

**Resource Prescription:** Remove decadent/high risk jack pine; retain a minimum of 40 BA of trees >5" dbh Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to reduce fuel loading, reduce ladder fuels and to maintain a more open condition to reduce the possibility of catastrophic wildfire. The prescribed burn should reduce 1 hour fuels 75% (10-90%), 10 hour fuels 50% (5-80% range), 100 hour fuels 35% (10-70% range), and 1000 hour fuels 10% (0-40% range). Exposed mineral soil would occur on no more than 15% of the stand. Over all tree mortality in the residual stand should not exceed 15%. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Cut all decadent hardwoods and all conifers within 100' of private property. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

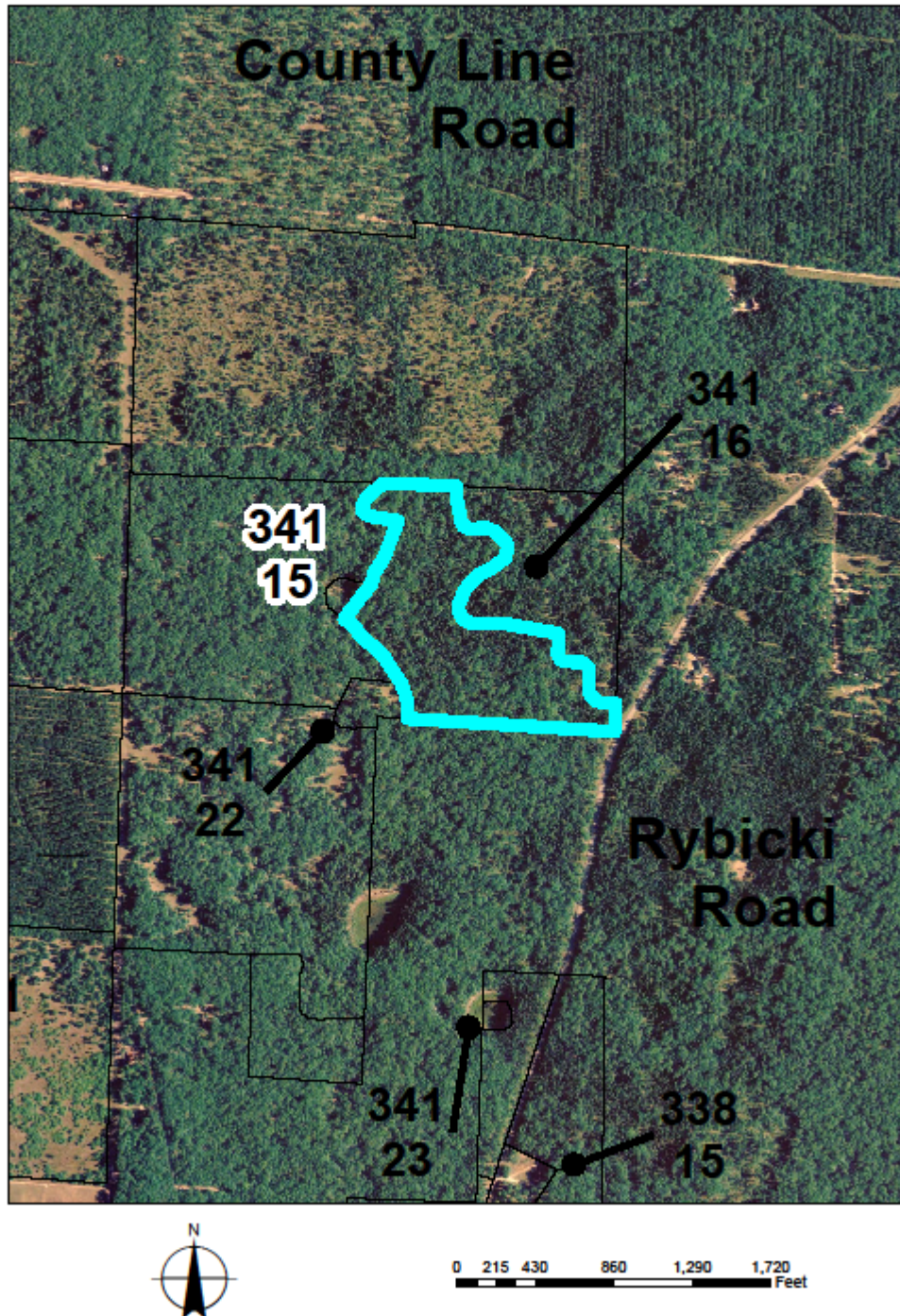
**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 60





**Treatment Unit Card 60****Alternatives:** 3**Compartment:** 341**Stand:** 15**Acreage Treated:** 23**Treatment:** Shelterwood; Site prep**District:** Cadillac-Manistee**Location:** T20N, R16W, Sec 2; Mason County**ELTP:** 10

**Unit Description:** A jack pine stand with a year of origin of 1941 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

**Resource Prescription:** Shelterwood removal cut harvest; remove decadent/high risk jack pine and oak <8" dbh. Site prep for natural regeneration by hand tool felling of all jack pine and oak <5" dbh. Retain a minimum of 30 BA of oak and pine >8" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

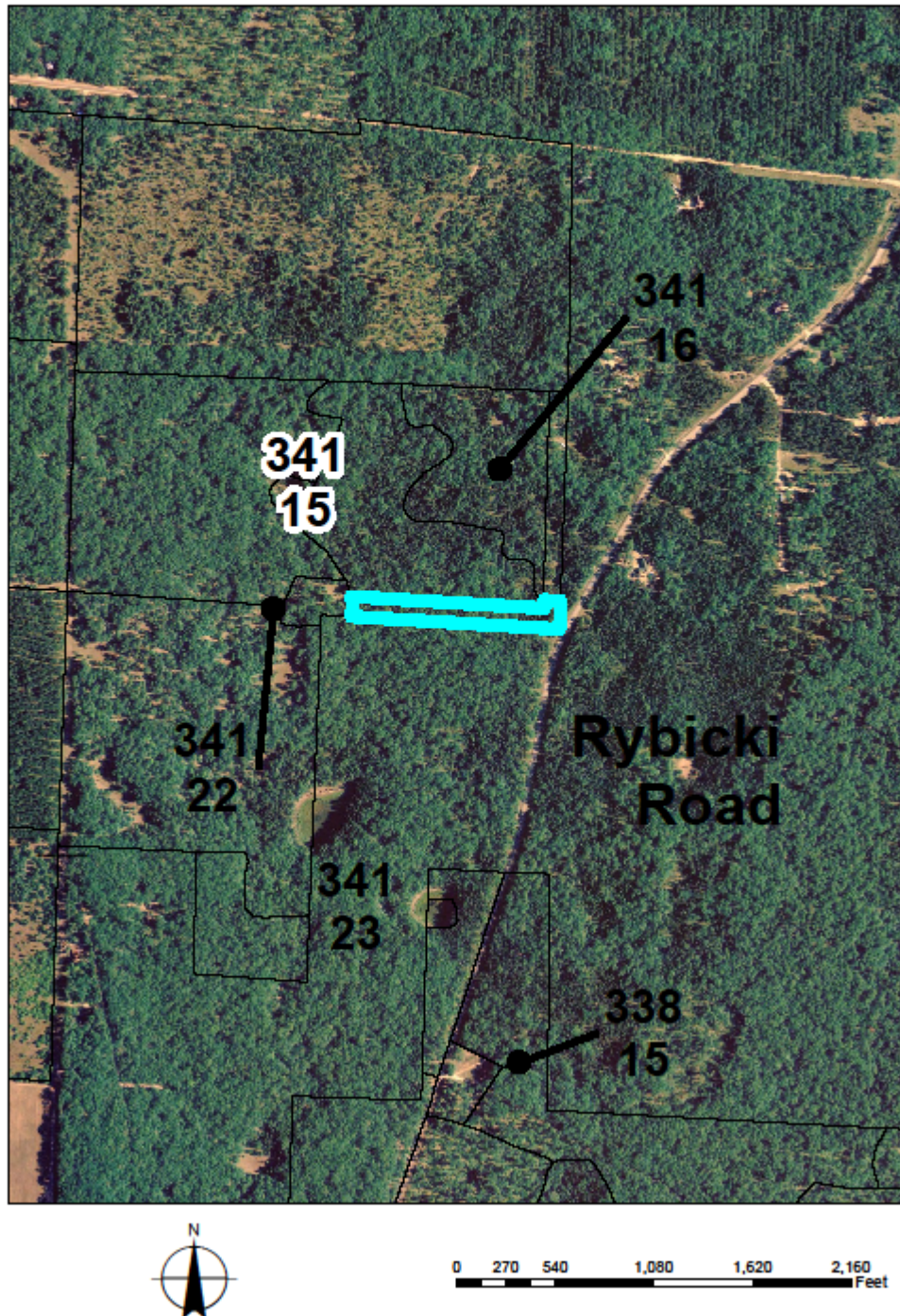
**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.



## County Line Fuels Project Treatment Unit Card 60





## **Treatment Unit Card 60**

**Alternatives:** 4  
**Compartment:** 341  
**Stand:** 15  
**Acreage Treated:** 3

**Treatment:** Fuelbreak; Pile and burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 2; Mason County  
**ELTP:** 10

**Unit Description:** A jack pine stand with a year of origin of 1941 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** Cut all decadent hardwoods and all conifers within 100' of private property. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

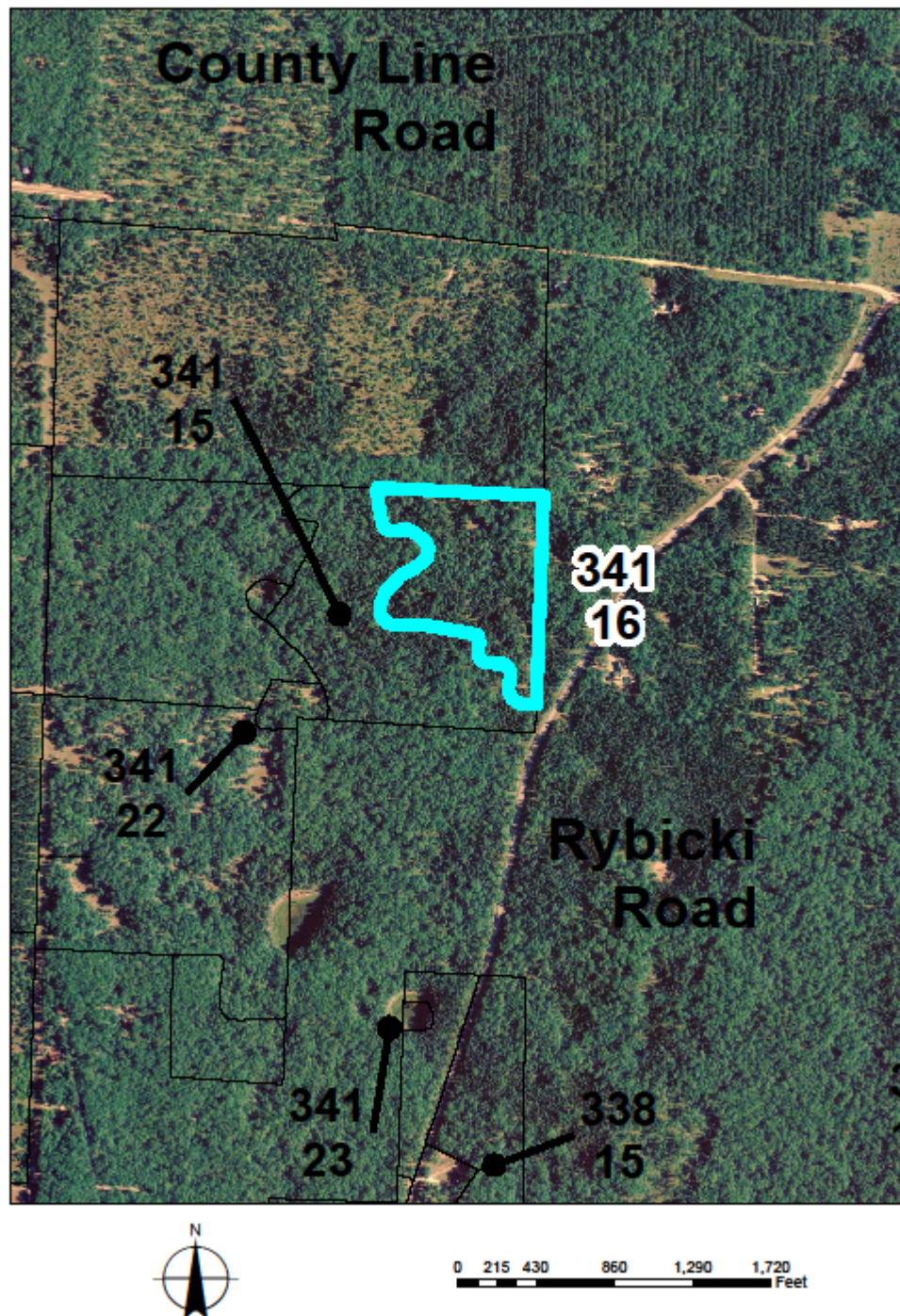
**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 61





## **Treatment Unit Card 61**

**Alternatives:** 2

**Compartment:** 341

**Stand:** 16

**Acreage Treated:** 16

**Treatment:** Sanitation; Broadcast burn; Fuelbreak; Pile and burn

**District:** Cadillac-Manistee

**Location:** T20N, R16W, Sec 2; Mason County

**ELTP:** 10

**Unit Description:** A jack pine-oak stand with a year of origin of 1961 and a basal area (BA) of 40. It is located on LTA 1 in Management Area 4.2.

**Resource Prescription:** Remove decadent/high risk jack pine; retain a minimum of 20 BA of trees >5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to reduce fuel loading, reduce ladder fuels and to maintain a more open condition to reduce the possibility of catastrophic wildfire. The prescribed burn should reduce 1 hour fuels 75% (10-90%), 10 hour fuels 50% (5-80% range), 100 hour fuels 35% (10-70% range), and 1000 hour fuels 10% (0-40% range). Exposed mineral soil would occur on no more than 15% of the stand. Over all tree mortality in the residual stand should not exceed 15%. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Cut all decadent hardwoods and all conifers within 100' of private property. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

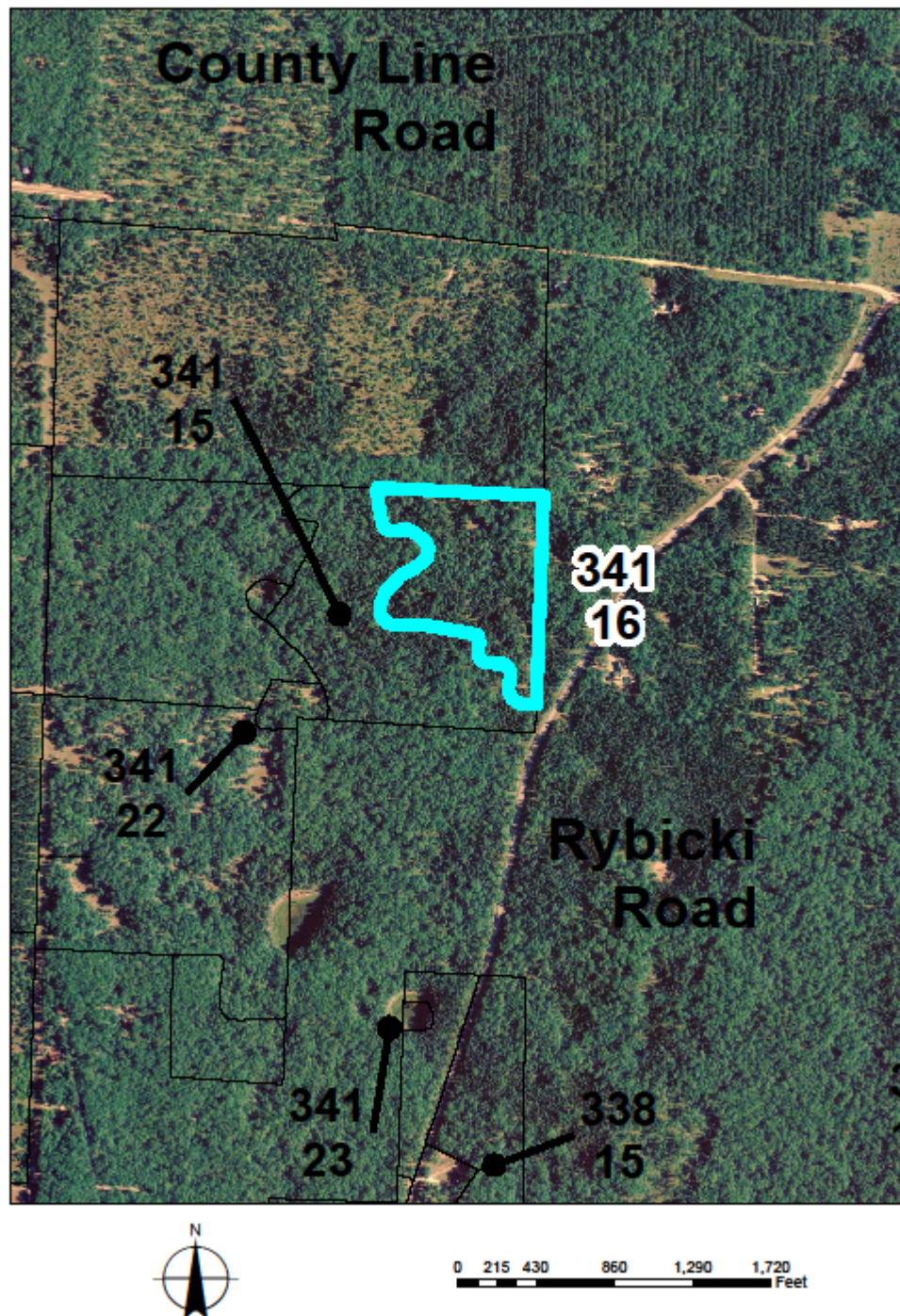
**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 61





## **Treatment Unit Card 61**

**Alternatives:** 3

**Compartment:** 341

**Stand:** 16

**Acreage Treated:** 16

**Treatment:** Shelterwood; Site prep

**District:** Cadillac-Manistee

**Location:** T20N, R16W, Sec 2; Mason County

**ELTP:** 10

**Unit Description:** A jack pine-oak stand with a year of origin of 1961 and a basal area (BA) of 40. It is located on LTA 1 in Management Area 4.2.

**Resource Prescription:** Shelterwood removal cut harvest; remove decadent/high risk jack pine and oak <8" dbh. Site prep for natural regeneration by hand tool felling of all jack pine and oak <5" dbh. Retain a minimum of 10 BA of oak and pine >6" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

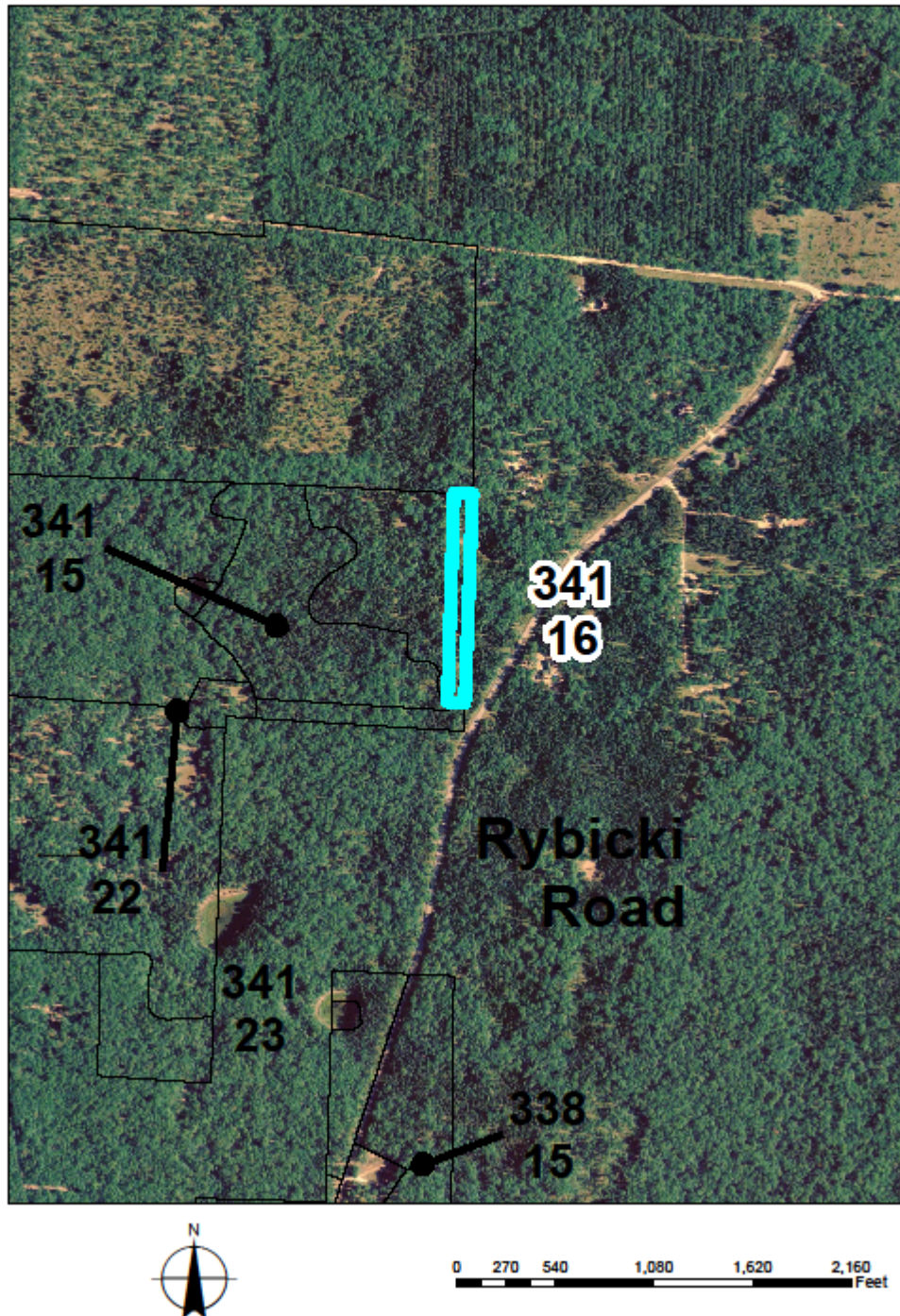
**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.



## County Line Fuels Project Treatment Unit Card 61





## **Treatment Unit Card 61**

**Alternatives:** 4  
**Compartment:** 341  
**Stand:** 16  
**Acreage Treated:** 3

**Treatment:** Fuelbreak; Pile and burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 2; Mason County  
**ELTP:** 10

**Unit Description:** A jack pine-oak stand with a year of origin of 1961 and a basal area (BA) of 40. It is located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** Cut all decadent hardwoods and all conifers within 100' of private property. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

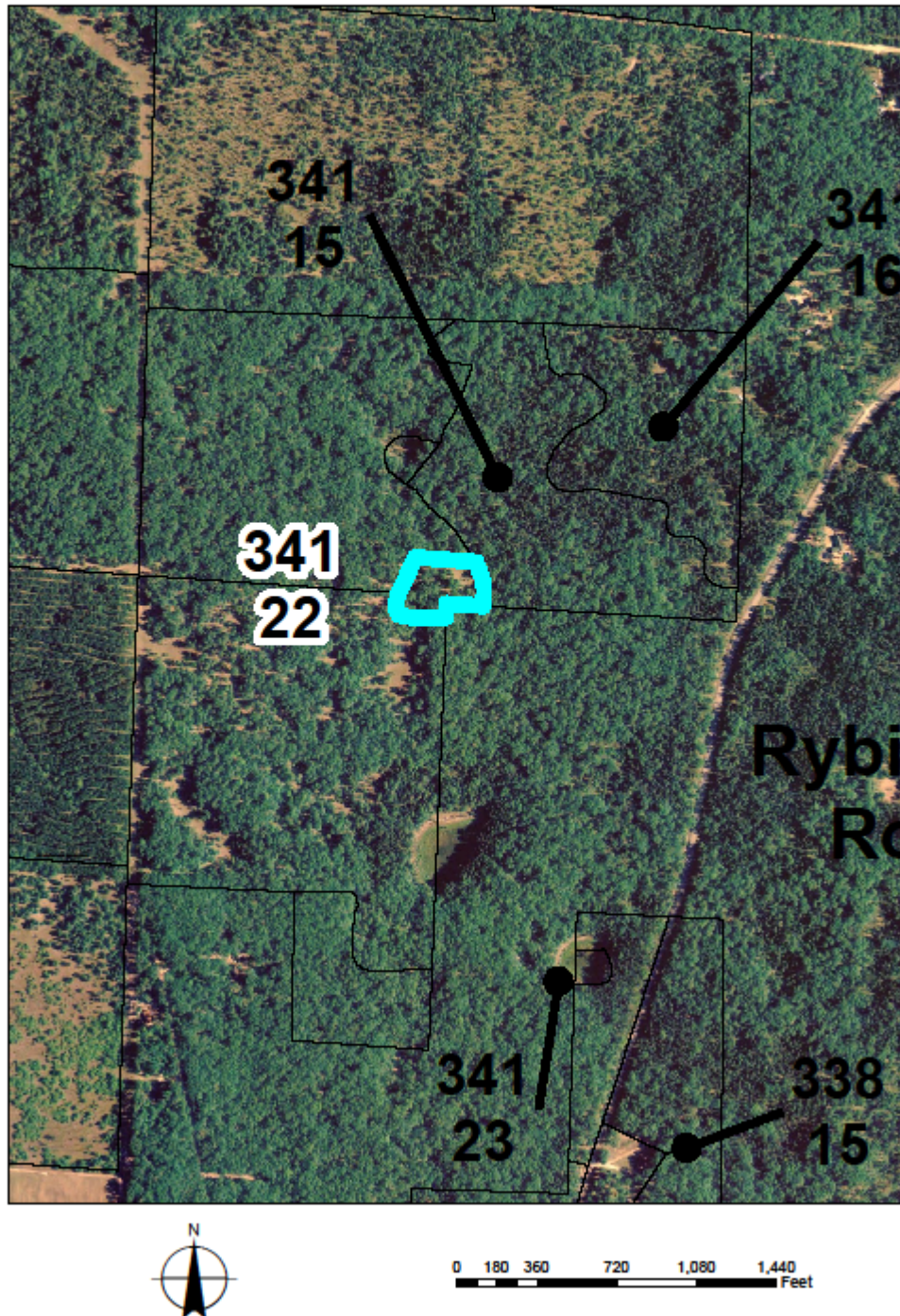
**Mitigation:** Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 62





## **Treatment Unit Card 62**

**Alternatives:** 2  
**Compartment:** 341  
**Stand:** 22  
**Acreage Treated:** 2

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 2; Mason County  
**ELTP:** 10

**Unit Description:** An opening located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

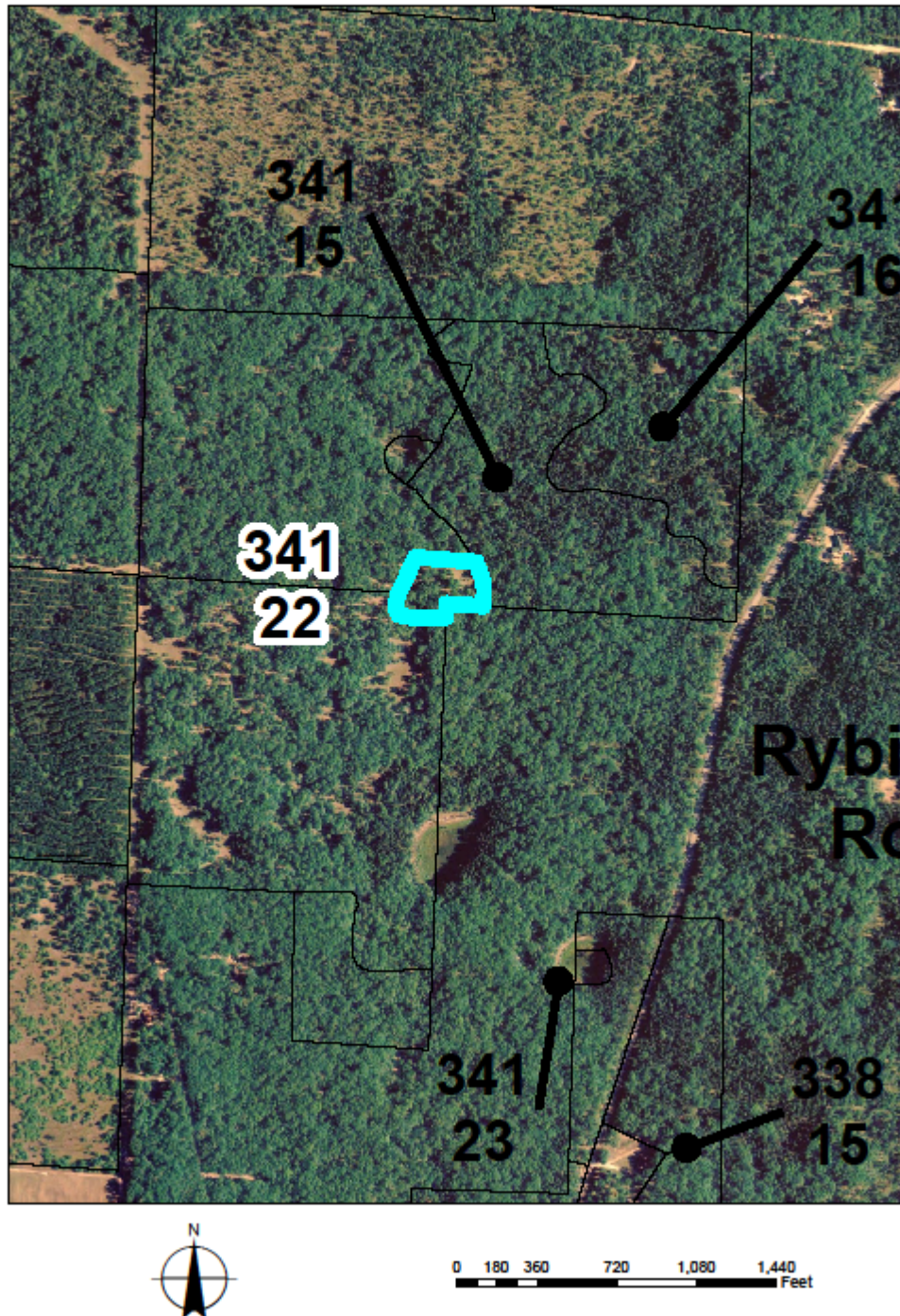
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 62





**Treatment Unit Card 62**

**Alternatives:** 3, 4  
**Compartment:** 341  
**Stand:** 22  
**Acreage Treated:** 2

**Treatment:** Opening maintenance  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 2; Mason County  
**ELTP:** 10

**Unit Description:** An opening located on LTA 7 in Management Area 4.2.

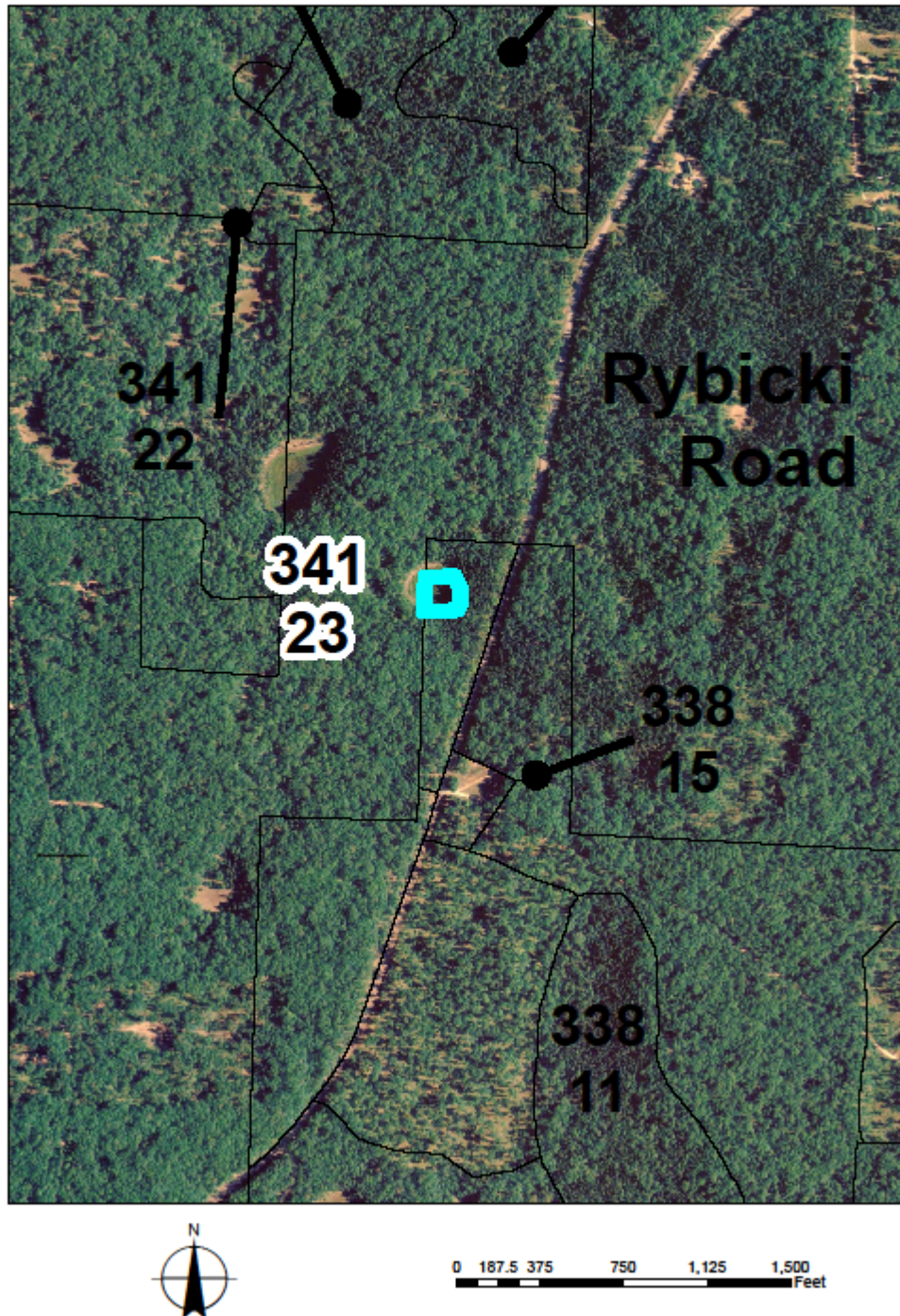
**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

**Concern:** Protection of potential Indiana bats present during the breeding season.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut or removed unless considered a safety hazard.



## County Line Fuels Project Treatment Unit Card 63





**Treatment Unit Card 63****Alternatives:** 2, 3, 4**Compartment:** 341**Stand:** 23**Acreage Treated:** 1**Treatment:** Opening maintenance**District:** Cadillac-Manistee**Location:** T20N, R16W, Sec 2; Mason County**ELTP:** 10**Unit Description:** An opening located on LTA 1 in Management Area 4.2.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

**Concern:** Protection of potential Indiana bats present during the breeding season.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut or removed unless considered a safety hazard.



## County Line Fuels Project Treatment Unit Card 64





**Treatment Unit Card 64**

**Alternatives:** 3, 4  
**Compartment:** 341  
**Stand:** 24  
**Acreage Treated:** 20

**Treatment:** Fuelbreak; Lop and scatter; Pile and burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 2; Mason County  
**ELTP:** 10

**Unit Description:** A mixed oak stand with a year of origin of 1932 and a basal area (BA) of 70. It is located on LTA 7 in Management Area 4.2.

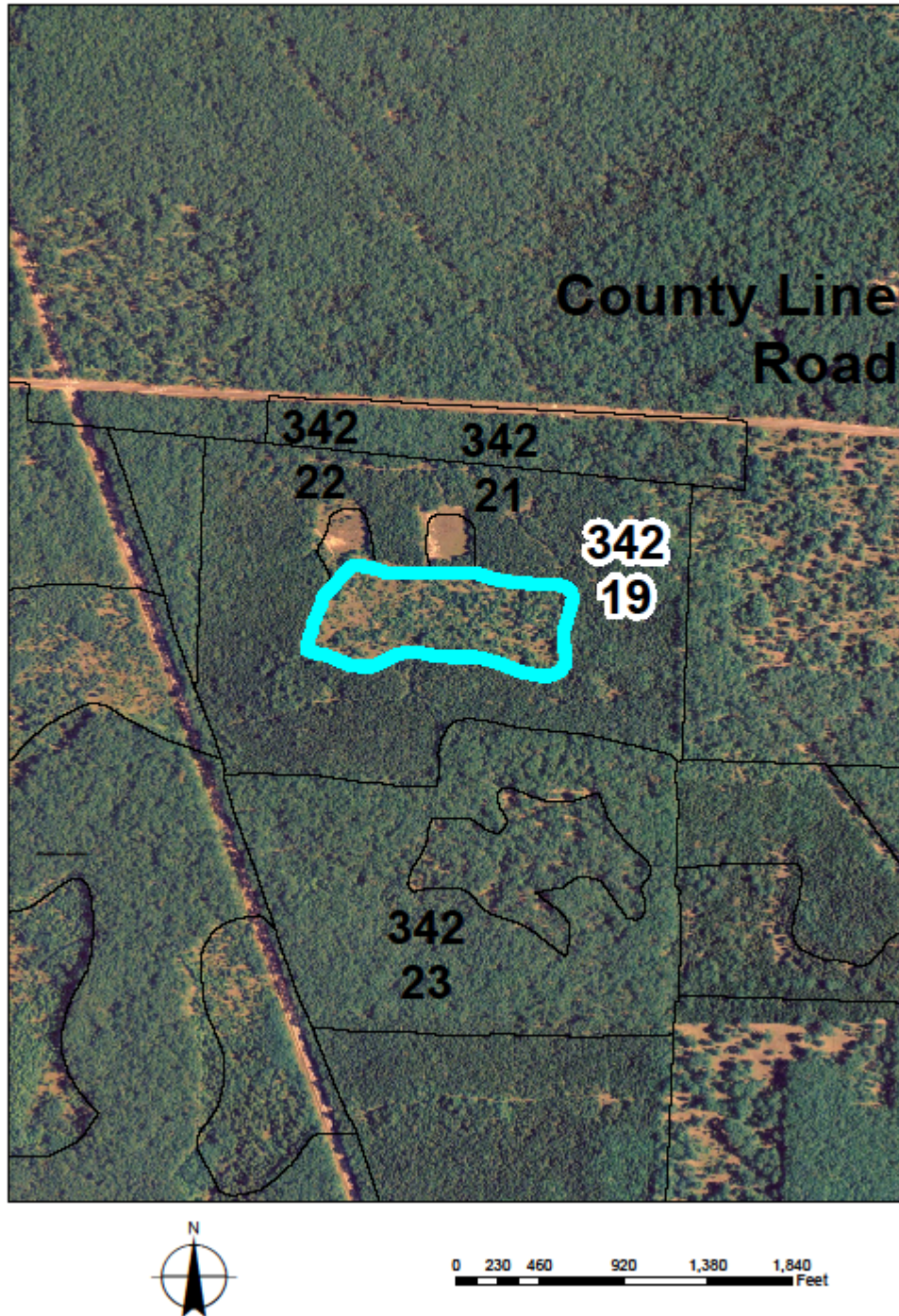
**Fuels Prescription:** Cut all decadent hardwoods and all conifers within 100' of private property, road, and in the blowdown area in the interior. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

**Concern:** Protection of potential Indiana bats present during the breeding season.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut or removed unless considered a safety hazard.



## County Line Fuels Project Treatment Unit Card 65





## **Treatment Unit Card 65**

**Alternatives:** 2, 3, 4  
**Compartment:** 342  
**Stand:** 19  
**Acreage Treated:** 15

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 4; Mason County  
**ELTP:** 10

**Unit Description:** An upland brush opening located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

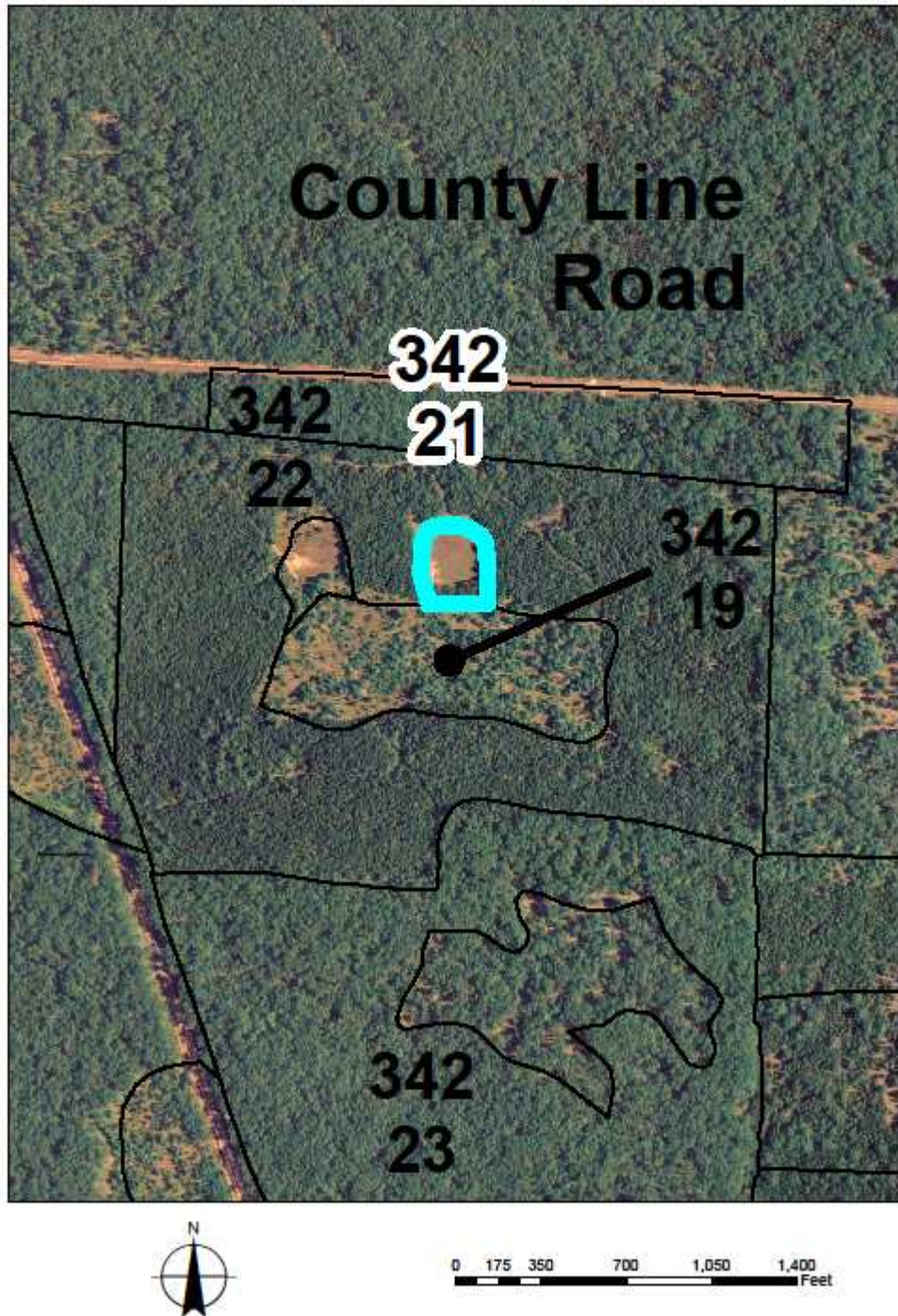
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 66





## **Treatment Unit Card 66**

**Alternatives:** 2, 3, 4  
**Compartment:** 342  
**Stand:** 21  
**Acreage Treated:** 2

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 4; Mason County  
**ELTP:** 10

**Unit Description:** An opening located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Plant Alleghany plum in suitable areas.

**NNIS Prescription:** Inject glyphosate capsules into stems of autumn olive (0.01 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

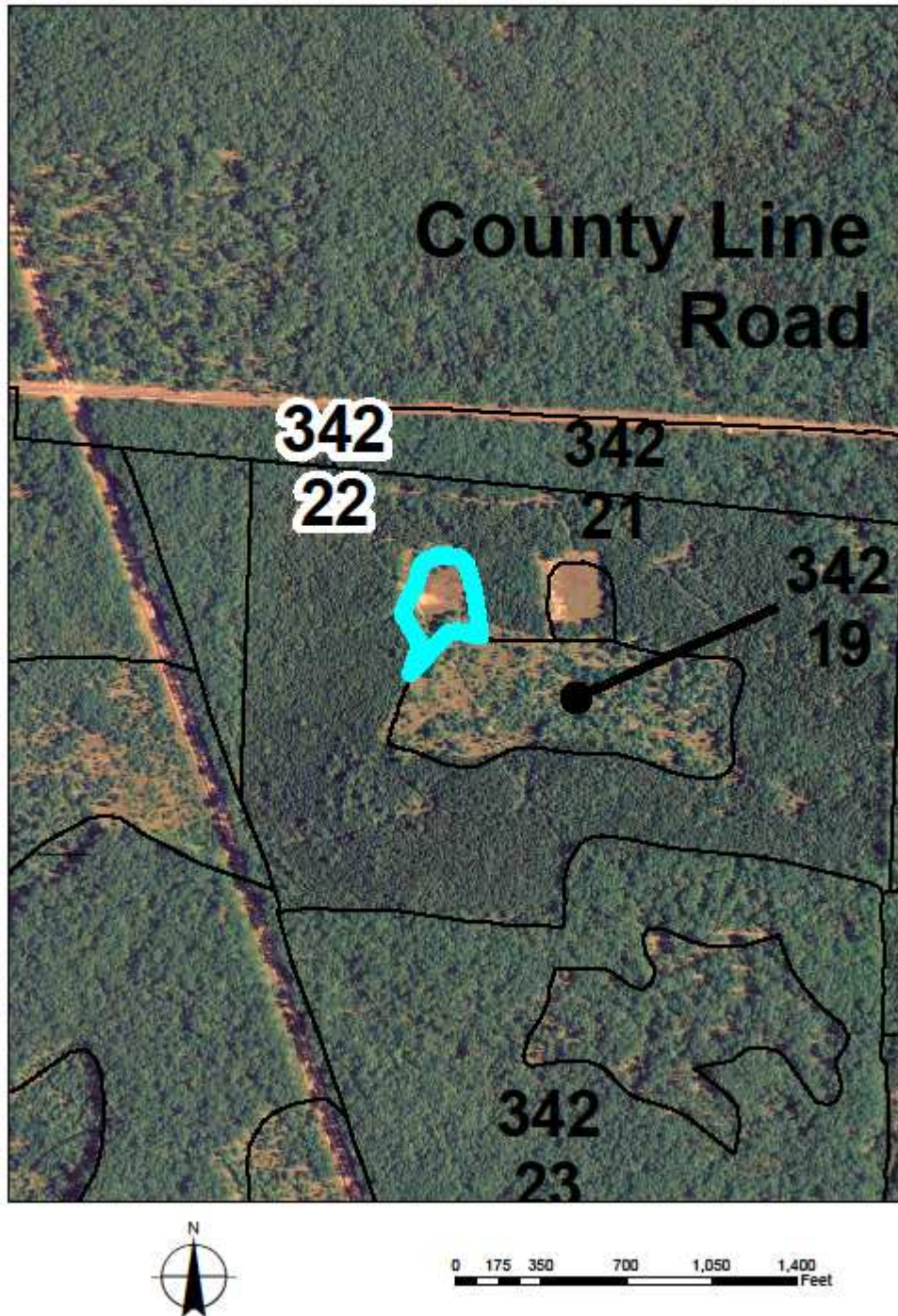
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 67





## **Treatment Unit Card 67**

**Alternatives:** 2, 3, 4  
**Compartment:** 342  
**Stand:** 22  
**Acreage Treated:** 2

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 4; Mason County  
**ELTP:** 10

**Unit Description:** An opening located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Plant Alleghany plum along edges.

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

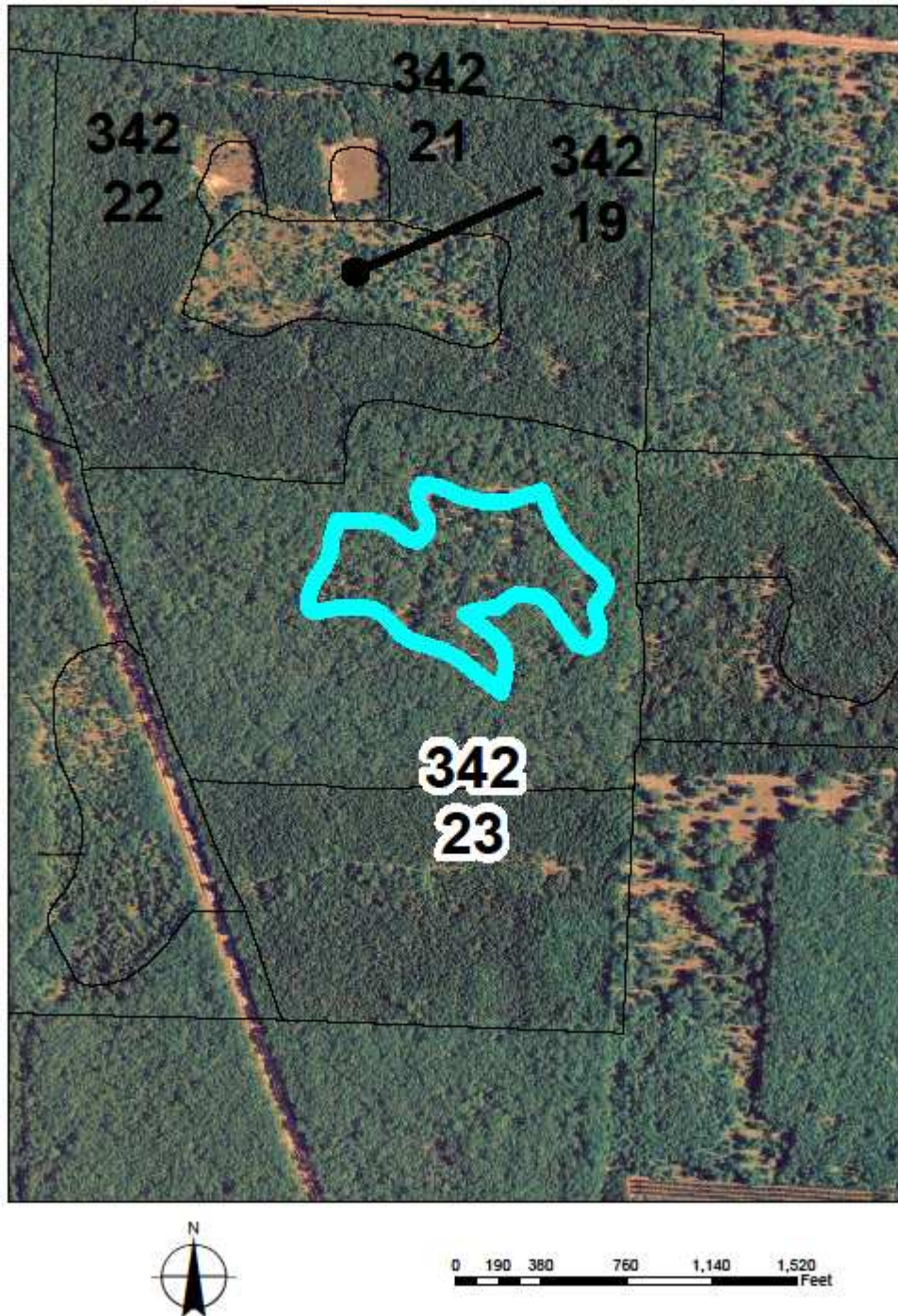
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 68





## **Treatment Unit Card 68**

**Alternatives:** 2, 3, 4  
**Compartment:** 342  
**Stand:** 23  
**Acreage Treated:** 14

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 4; Mason County  
**ELTP:** 10

**Unit Description:** An opening located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Create upland water source. The waterhole would be excavated and lined with plastic, would be approximately 30X30 ft and 4-6 ft deep.

**NNIS Prescription:** Cut all scotch pine (0.01 ac).

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

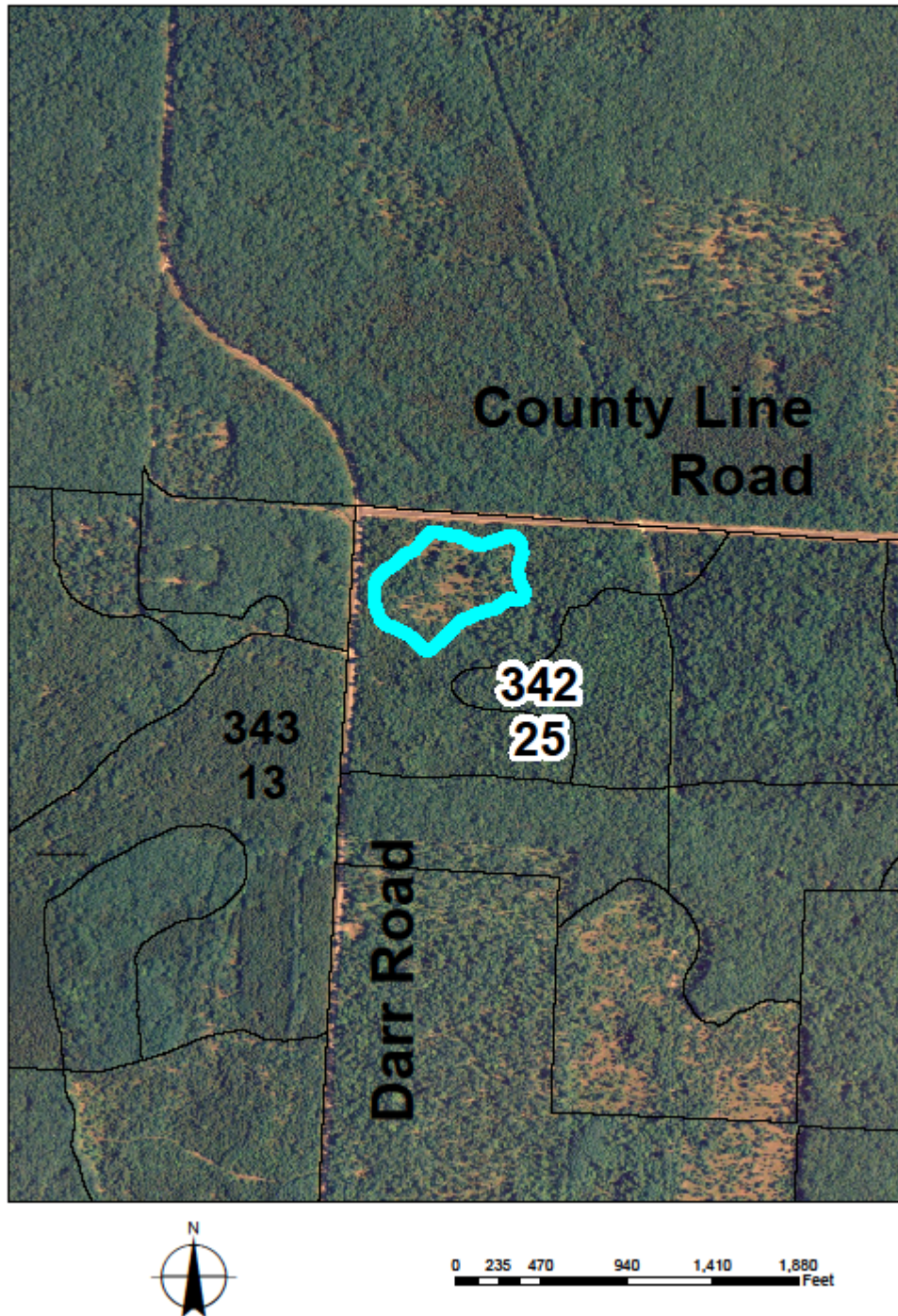
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 69





## **Treatment Unit Card 69**

**Alternatives:** 2, 3, 4  
**Compartment:** 342  
**Stand:** 25  
**Acres Treated:** 8

**Treatment:** Opening maintenance; Broadcast burn  
**District:** Cadillac-Manistee  
**Location:** T20N, R16W, Sec 5; Mason County  
**ELTP:** 20

**Unit Description:** An upland brush opening located on LTA 1 in Management Area 4.2.

**Fuels Prescription:** A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

**Wildlife Prescription:** Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

**Concern:** Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

**Mitigation:** Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

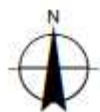
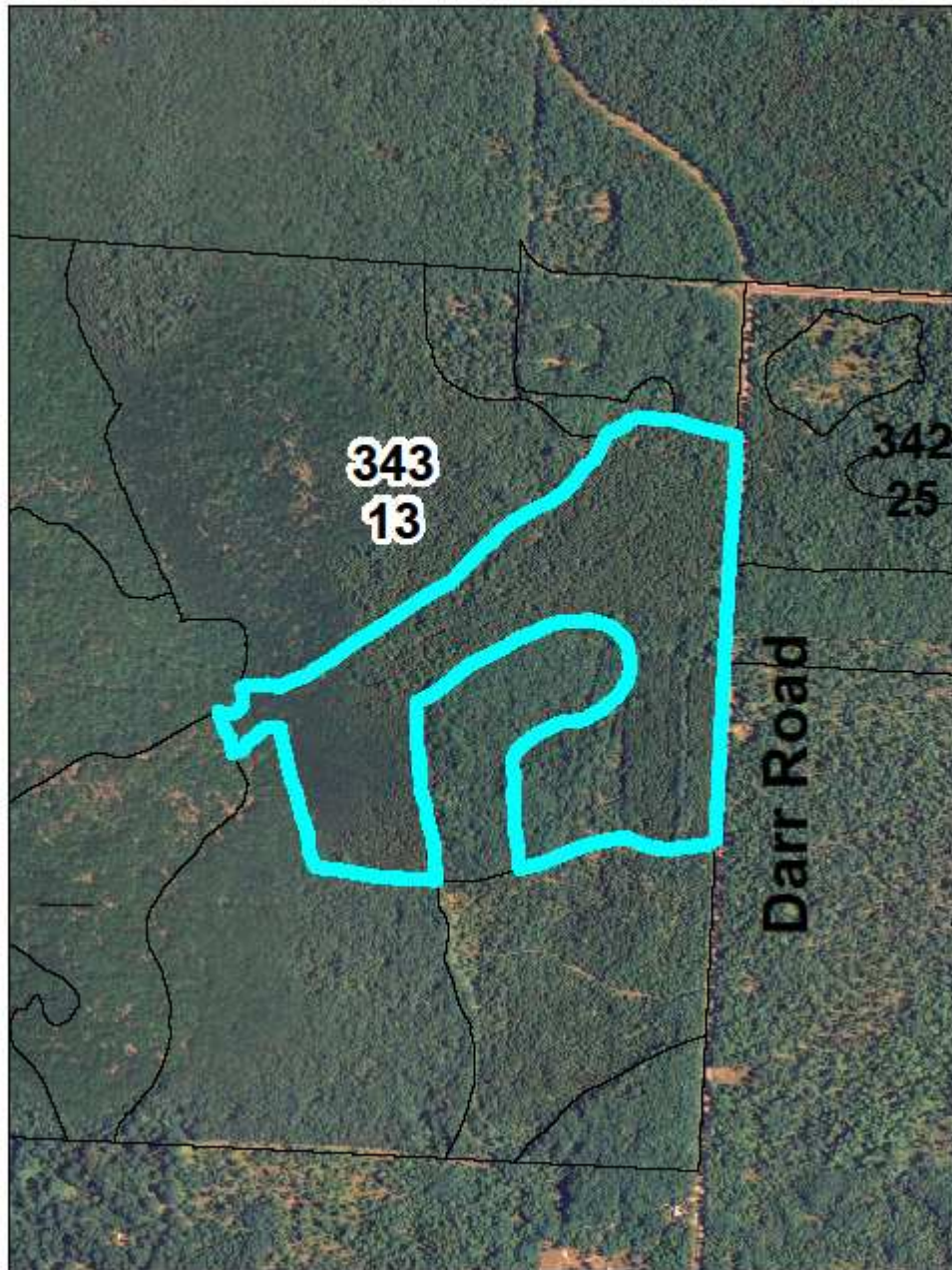
**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut and/or removed unless considered a safety hazard.

**Concern:** Protection of bald eagle nesting areas.

**Mitigation:** Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.



## County Line Fuels Project Treatment Unit Card 70



0 240 480 960 1,440 1,920 Feet



## **Treatment Unit Card 70**

**Alternatives:** 2, 3, 4

**Compartment:** 343

**Stand:** 13

**Acreage Treated:** 71

**Treatment:** Thin

**District:** Cadillac-Manistee

**Location:** T20N, R16W, Sec 6; Mason County

**ELTP:** 20-21

**Unit Description:** A red pine stand with a year of origin of 1967 and a basal area (BA) of 140. It is located on LTA 1 in Management Area 4.2.

**Resource Prescription:** Row thin and thin from below (without spacing consideration) to reduce density by approximately 30%; target 90-110 BA for all species. Remove selected jack and scotch pine. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible. Regenerate aspen strip.

**Wildlife Prescription:** Create upland water source. The waterhole would be excavated and lined with plastic, would be approximately 30X30 ft and 4-6 ft deep. Plant native shrubs in suitable areas.

**NNIS Prescription:** Inject glyphosate capsules into stems of autumn olive (0.1 ac) and honeysuckle (0.1 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years. Hand pull garlic mustard (0.01 ac).

**Concern:** Protection of potential Indiana bats present during the breeding season.

**Mitigation:** Standing snags  $\geq 6$  inches dbh would not be cut or removed unless considered a safety hazard.

**Concern:** Protection of aspen/oak regen inclusion during treatment operations.

**Mitigation:** Reserve regeneration areas where suitable.